

PATENT
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Charles W. Stewart
Charles W. Stewart
Date: 16 May 2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
CAROLUS M. A. M. MESTERS)
)
Serial No. 10/668,908)
)
Filed September 23, 2003)
)
CATALYST AND ITS USE IN)
DESULPHURISATION)
_____)

Group Art Unit: 1764

Examiner: Tam M. Nguyen

COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE

This paper is in response to the restriction requirement mailed 10 October 2006.

REMARKS

The applicant acknowledges the finality of the Examiner's restriction requirement.

The Examiner has rejected claims 1-26 under 35 U.S.C. 103(a) as being obvious over EP 0 401 788 (Kidd) in view of US 6,254,766 (Sughrue et al.). This rejection is respectfully traversed.

The Kidd reference teaches a process to selectively remove H_2S from gaseous streams using an absorbing composition: Page 2, line 5-8: The absorbing composition consists only of a base material selected from the group consisting of zinc oxide and zinc titanate, preferably combined with alumina and nickel oxide. Page 2, lines 53-57; page 3, lines 50-52. Alumina is indicated as an optional component and there is no mention of the use of silica as a component of the absorbing composition. The nickel component of the absorbing composition is required to be in the oxide form and, thus, it is not in the reduced form nor may it be in the reduced form. Page 5, line 51 – page 6, line 5.

The Shughrue reference teaches a process for removing organosulfur compounds from fluid streams of cracked-gasolines and diesel fuels using a particulate composition comprising zinc oxide, silica and nickel that is in a substantially reduced valence state, preferably a zero valence state. Column 1, lines 5-12; column 2, lines 51-54; column 5, lines 59-67. The composition is required to contain both silica and alumina and the nickel must be present in a substantially reduced valence state. Column 5, line 40 – column 6, line 25.

The applicant respectfully submits that it is not appropriate to combine the Kidd and Sughrue references in the way the Examiner has combined them. The process of each reference is significantly different from the other. The Kidd process is directed to the removal of hydrogen sulfide from gaseous streams by selective absorption and without significantly increasing the concentration of sulfur dioxide in the treated stream; but, on the other hand, the Sughrue process is directed to the removal of organosulfur from the normally liquid hydrocarbons of cracked gasoline and diesel. Moreover, the Kidd reference teaches that the nickel component of its absorbing composition is in the oxide form. Thus, a modification of the Kidd teachings so that the nickel component of its composition is in a reduced valence state instead of an oxide materially changes the Kidd composition. Additionally, the Sughrue reference teaches that its composition must, in addition to containing zinc oxide, contain both silica and alumina, but there is no suggestion in the Kidd reference that its composition may contain silica, and Kidd teaches that alumina is an optional component of its composition.


There are numerous differences between the applicant's claimed catalyst and the compositions disclosed in either Kidd or Sughrue. For instance, the primary reference of Kidd does not teach the reduction of its composition as is required by the applicant's claimed

invention. And, in fact, the Kidd composition cannot be reduced because such a reduction would convert the nickel oxide, which needs to be present in the composition, to something different. Other differences include the applicant's strength and nickel dispersion limitations that are not mentioned in the references cited by the Examiner.

Considering that the teachings of the primary and secondary references do not allow their combination so as to provide the applicant's claimed composition and that numerous other limitations recited in the applicant's independent and dependent claims are not taught by the cited references, it is respectfully submitted that the claims pending in this application are patentable. Therefore, the withdrawal of the Examiner's rejection and allowance of the claims are respectfully requested.

Respectfully submitted,

CAROLUS M. A. M. MESTERS

By 
Attorney, Charles W. Stewart
Registration No. 34,023
(713) 241-0360

P. O. Box 2463
Houston, Texas 77252-2463